

AMENDMENTS TO THE CLAIMS

1. (Withdrawn) Method for cracking disk-like or plate-like production parts along a prespecified fracture plane, whereby the respective production part is clamped on both sides of the fracture plane between clamping jaw pairs and the clamping jaw pairs are moved towards each other under the action of force in such a way that the production part along the fracture plane is subjected to a tensile stress alternately on the upper side and underside.
2. (Withdrawn) Method according to claim 1, wherein the tensile stress is generated by a periodically changing rocking motion of the clamping jaw pairs towards each other.
3. (Withdrawn) Method according to claim 2, wherein the periodically changing rocking motion of the clamping jaw pairs is superimposed by a tensile force which pulls the jaw pairs apart essentially perpendicular to the fracture plane.
4. (Withdrawn) Method according to claim 2, wherein the flexural fatigue stress generated by the periodically changing rocking motion of the clamping jaw pairs in the area of the fracture plane of the production part is introduced in a continuously increasing way.
5. (Withdrawn) Method according to claim 2, wherein the flexural fatigue stress generated by the periodically changing rocking motion of the clamping jaw pairs in the area of the fracture plane of the production part is introduced in a pulsating way.
6. (Withdrawn) Method according to claim 3, wherein the tensile force is continuously increased.
7. (Withdrawn) Method according to claim 3, wherein the tensile force is introduced in a pulsating way.

Amendment dated January 25, 2010

Reply to Final Office Action of September 24, 2009

8. (Withdrawn) Method according to claim 1, wherein the frequency of the motion is between 0.1 and 10 Hz.

9. (Withdrawn) Method according to claim 7, wherein the frequency of the tensile force is between 0.1 and 10 Hz.

10. (Withdrawn) Method according to claim 1, wherein the force for the motion is generated hydraulically.

11. (Withdrawn) Method according to claim 3, wherein the tensile force is generated hydraulically.

12. (Withdrawn) Method according to claim 1, wherein, to generate the motion relative to an immovable base, both jaw pairs are moved towards each other.

13. (Withdrawn) Method according to claim 1, wherein, to generate the motion relative to an immovable base, one jaw pair is immovable and the other jaw pair is moved.

14. (Withdrawn) Method according to claim 1, wherein the production part is provided with a fracture notch on the upper side and/or the underside in the area of the fracture plane.

15. (Withdrawn) Method according to claim 14 for cracking a disk-like production part, wherein the fracture notch encloses an angle relative to the radius.

16. (Withdrawn) Method according to claim 15, wherein the angle is between 5° and 30°.

17. (Withdrawn) Method according to claim 14, wherein the fracture notch on the upper side of the production part is offset relative to the fracture notch on the underside.

18. (Withdrawn) Method according to claim 1, wherein the free ends of the clamping jaw pairs extend from opposite sides to as far as the fracture plane.

19. (Withdrawn) Method according to claim 18, wherein the fracture notches are created by cutting edges, which are arranged in the area of the free ends of the jaws of one of the two jaw pairs.

20. (Withdrawn) Method according to claim 19 for cracking a disk-like production part, wherein the cutting edges enclose an angle relative to the radius of the disk-like production part.

21. (Withdrawn) Method according to claim 20, wherein the angle is between 5° and 30°.

22. (Withdrawn) Device for performing the method according to claim 1,

- with a base,
- a first jaw pair movably-mounted on the base,
- a second jaw pair movably-mounted on the base,
- a drive, with which the movably-mounted jaw pairs can be moved periodically to and fro, and
- a control unit with which the frequency and force of the to and fro movement of the two jaw pairs can be adjusted.

23. (Currently amended) Workpiece cracking device, the workpiece being any one of a disk-shaped and a plate-shaped production part having an upper side and an under side and a pre-specified fracture plane, the workpiece cracking device comprising:

- a base,
- a first pair of jaws immovably mounted on the base, the first pair of jaws comprising a lower jaw and an upper jaw,
- a second pair of jaws movably mounted on the base, the second pair of jaws comprising a lower jaw and an upper jaw,

Amendment dated January 25, 2010

Reply to Final Office Action of September 24, 2009

- a drive moving, in operation, the movably-mounted second pair of jaws periodically up and down with respect to a plane said upper side and said under side of the disk-shaped or plate-shaped production part, as defined in an unstressed state, in such a way that the production part, along the fracture plane, is subjected to a tensile stress alternately on said upper side and said under side, and
- a control unit with which the frequency and force of the up and down movement of the second pair of jaws can be adjusted.

24. (Withdrawn) Device according to claim 22, wherein the drive comprises a hydraulic unit with at least one pump, at least one valve arrangement and at least one actuator cylinder, which act on one or both jaw pairs.

25. (Withdrawn) Device according to claim 24, wherein the valve arrangement comprises a hydraulic proportional, servo or control valve.

26. (Withdrawn) Device according to claim 24, wherein the valve arrangement comprises a controllable pressure-reducing valve.

27. (Previously presented) Device according to claim 23, wherein the jaws of the first pair of jaws and the jaws of the second pair of jaws have free ends, the free ends of the jaws of the first pair and the free ends of the jaws of the second pair extending from opposite sides toward the fracture plane.

28. (Previously presented) Device according to claim 27, wherein the free ends extend from opposite sides to the fracture plane.

29. (Previously presented) Device according to claim 27, wherein the jaws of any one of the first and the second pair of jaws have cutting edges in the area of their free ends.

Amendment dated January 25, 2010

Reply to Final Office Action of September 24, 2009

30. (Previously presented) Device according to claim 29, wherein the cutting edges enclose an angle relative to the radius of the disk-shaped production part.

31. (Previously presented) Device according to claim 30, wherein the angle is between 5° and 30°.

32. (Previously presented) Device according to claim 23, wherein the drive has a hydraulic aggregate comprising at least one pump, at least one valve arrangement and at least one actuator cylinder.

33. (Previously presented) Device according to claim 32, wherein the valve arrangement has at least one of a hydraulic proportional valve, a servo valve and an on-off valve.

34. (Previously presented) Device according to claim 32, wherein the valve arrangement has a controllable pressure-reducing valve.

35. (Previously presented) Device according to claim 23, wherein jaws of the second pair of jaws are connected to the drive by means of a lever arm.

36. (Previously presented) Device according to claim 32, wherein the at least one actuator cylinder is connected to the base.